

# Sheet List

Block diagram



File: Block.kicad\_sch

Power



File: Power.kicad\_sch

MCU



File: MCU.kicad\_sch

Audio and Misc



File: Audio.kicad\_sch

# Update History

Rev.No	Date	Comments
A1	2020-06-17	First revision.
A2	2020-07-05	Disconnect with VBUS to U1-P3(VDD1).
B1	2020-07-23	Change power structure to followings. - isolated(5V-5V) - DC/DC(5V-3.3V) - LDO(5V-3.3V)  Change main MCU. (STM32F722RET -> STM32H750VBT)
B2	2020-08-25	Change Display interface to SPI.
C1	2020-10-01	Changed DAC. (PCM1774 -> WM8960)
C2	2021-02-06	Changed main MCU to 144pin model. (STM32F722RET -> STM32H723ZGT6)  Changed MCU Voltage to 1.8V.
D1	2021-04-03	Divided into "main board" and "LCD board".
D2	2021-04-10	Modified M2 hole position. Divided into multiple sheets.
E1	2022-01-22	Kicad6.0にアップデート 基板形状の見直し 2次側の電源ICを変更 1.8V TPS62161DSG 3.3VD TLV76733DRV 3.3VA NCP711 リセットICをNCP303に変更 LCD基板へのコネクタピン数を変更
E2	2022-11-12	SWD端子にTVSダイオード追加 PSRAM追加 MIDI IN追加 UARTデバッグ端子削除 ハードウェアバージョン認識ピン追加
E3	2022-11-14	MIDI RXピンをPE7->PF6に変更
E4	2022-11-29	回路の変更なし GNDベタ形状・部品配置を調整

CureSynth mini main board

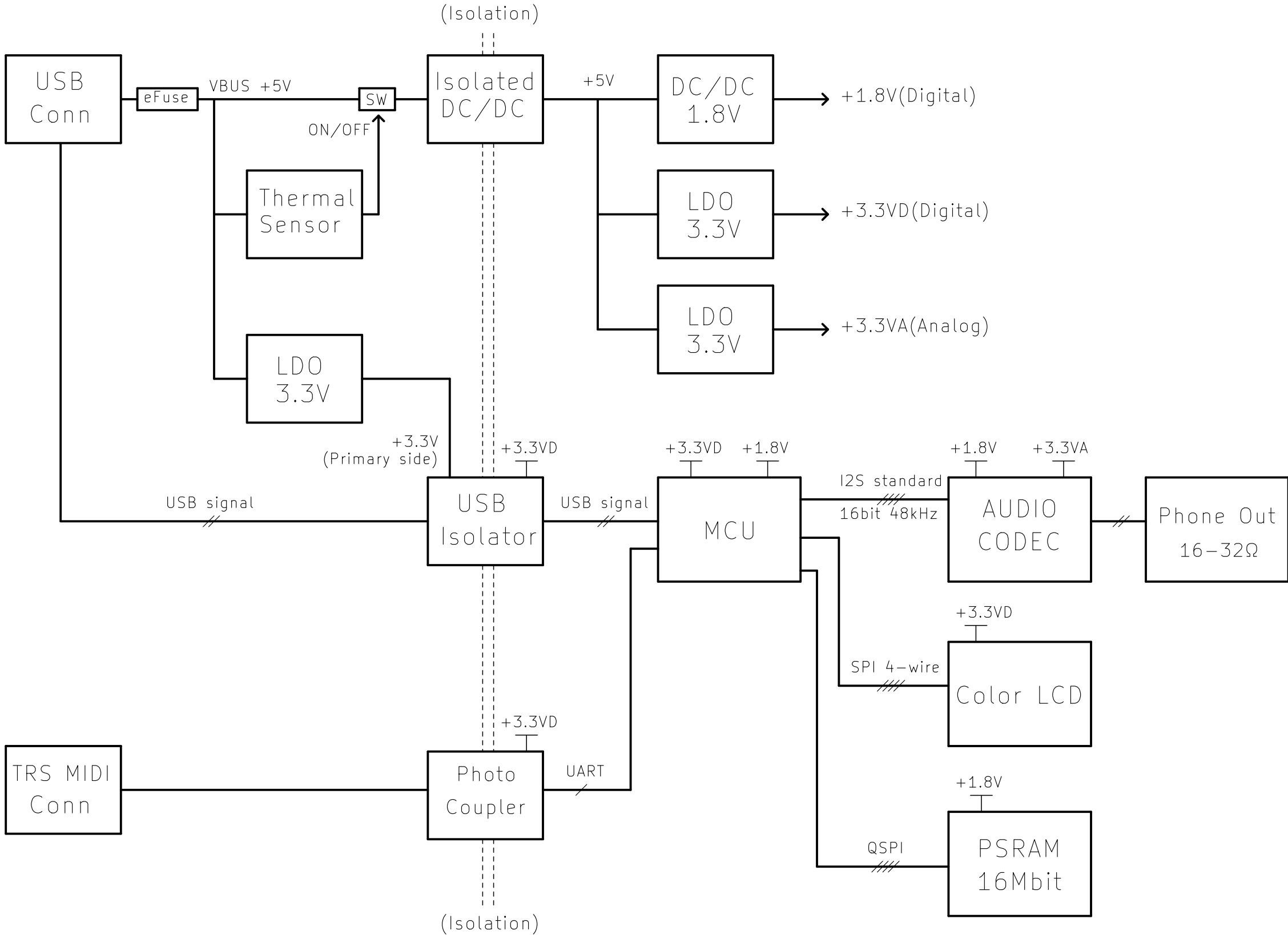
Sheet: 1/5

Date: 2022-11-29 (Rev:E4)

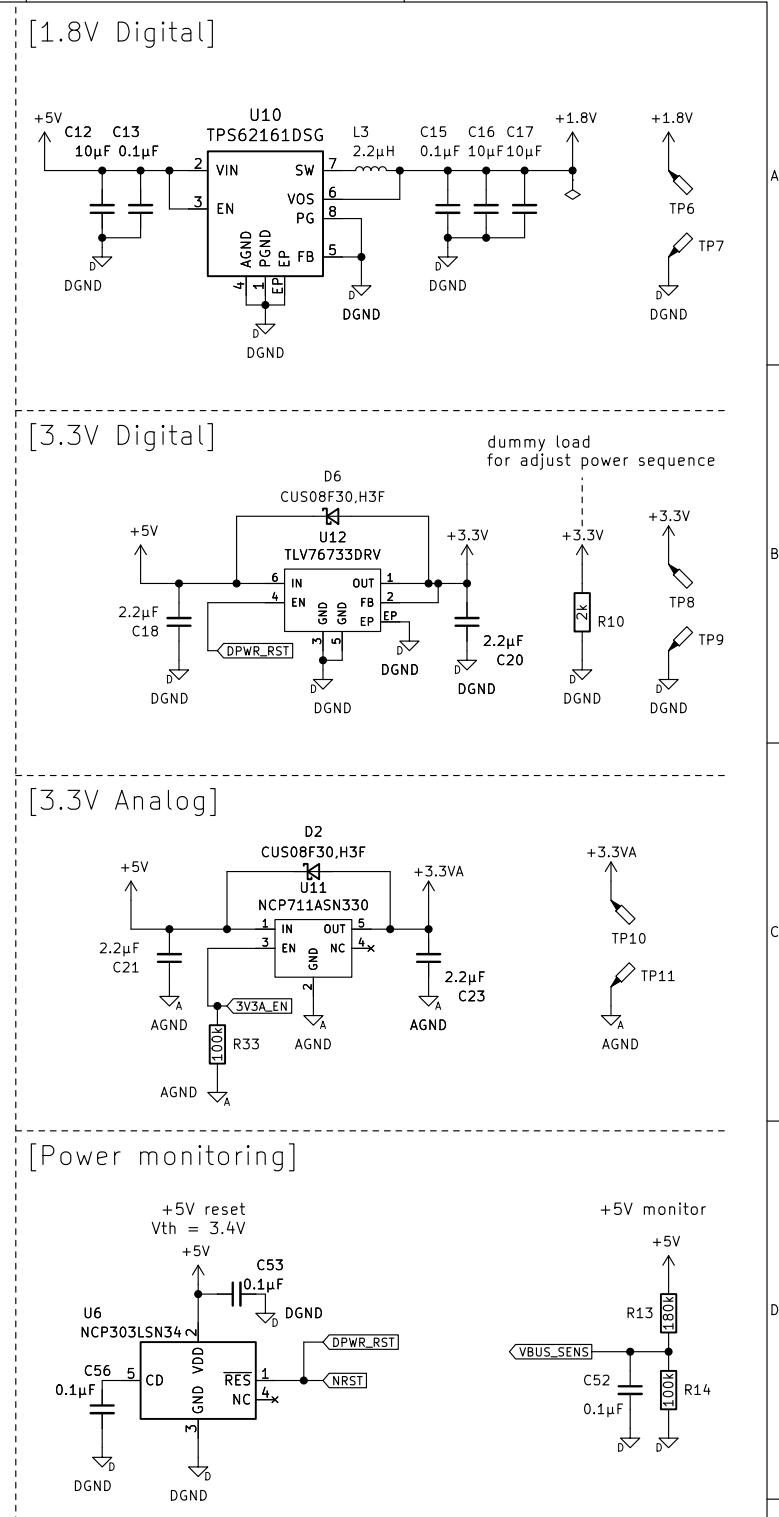
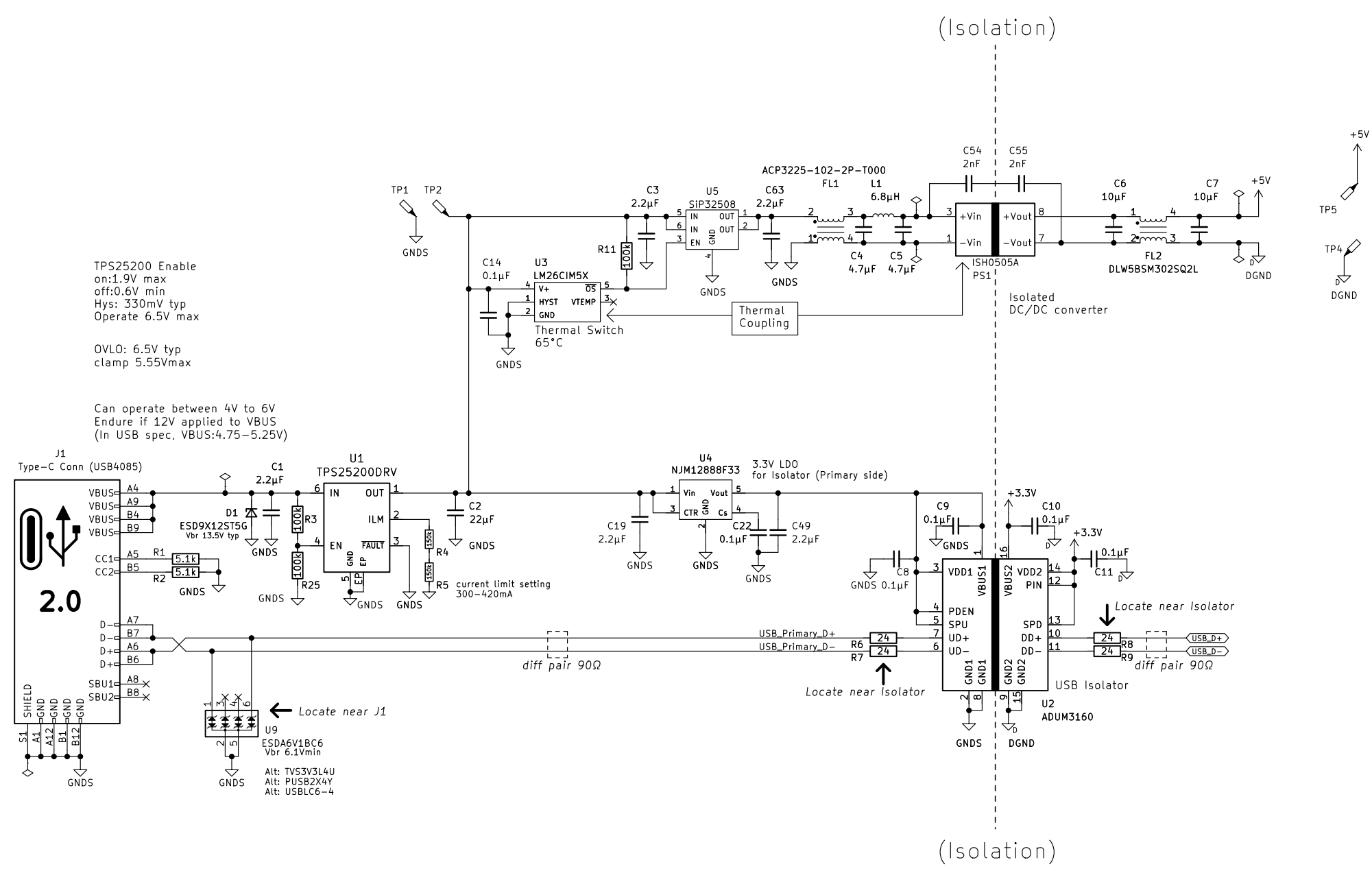
Tool: KiCad E.D.A. kicad (6.0.9)

chibi-synth with STM32H723

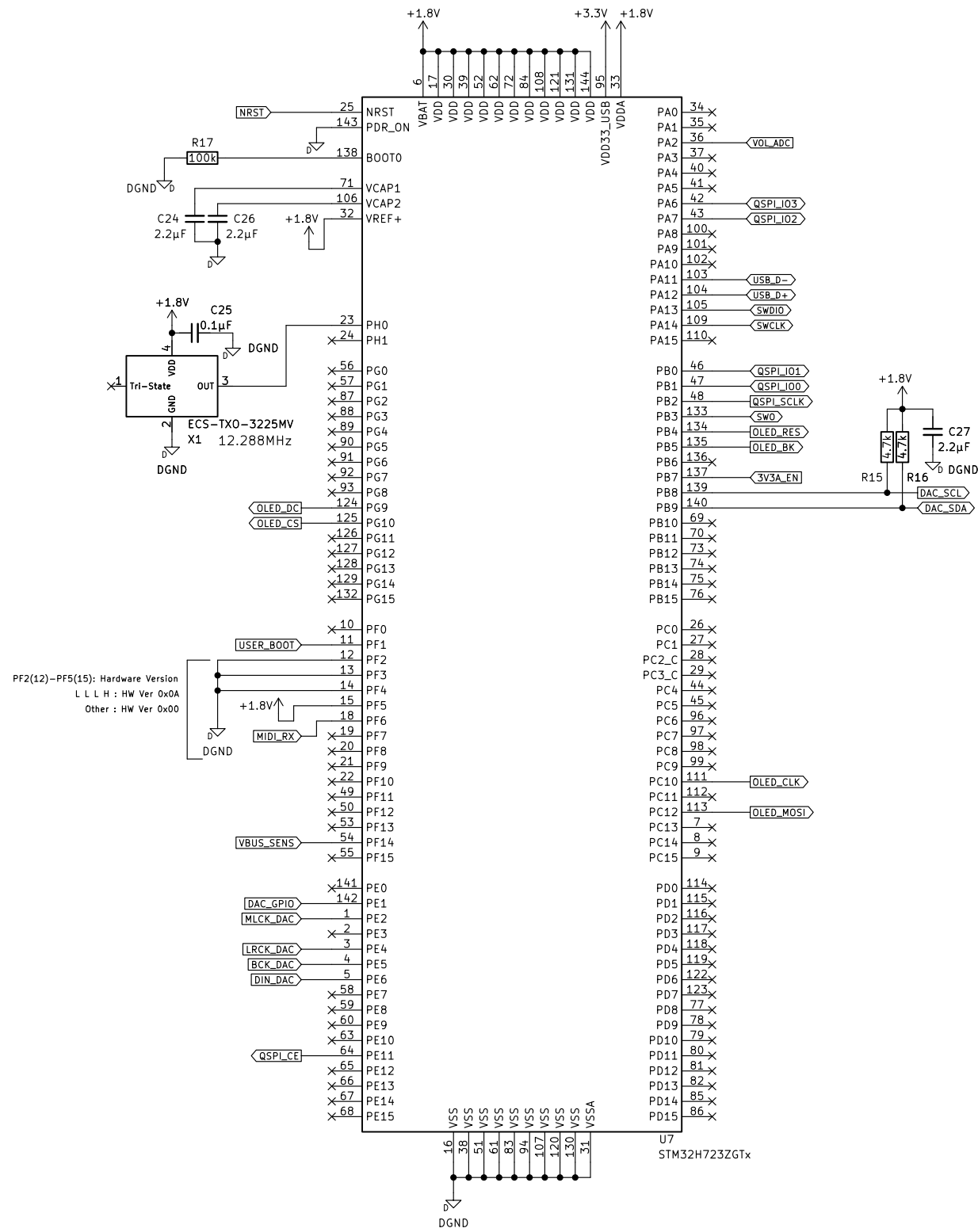
# Block Diagram



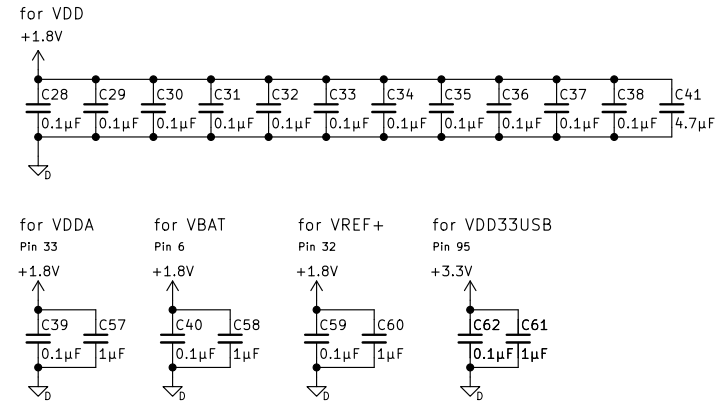
# USB and Power Block



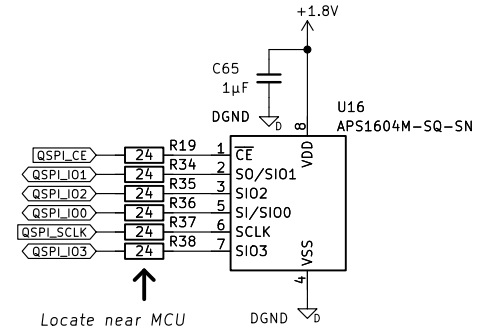
# MCU



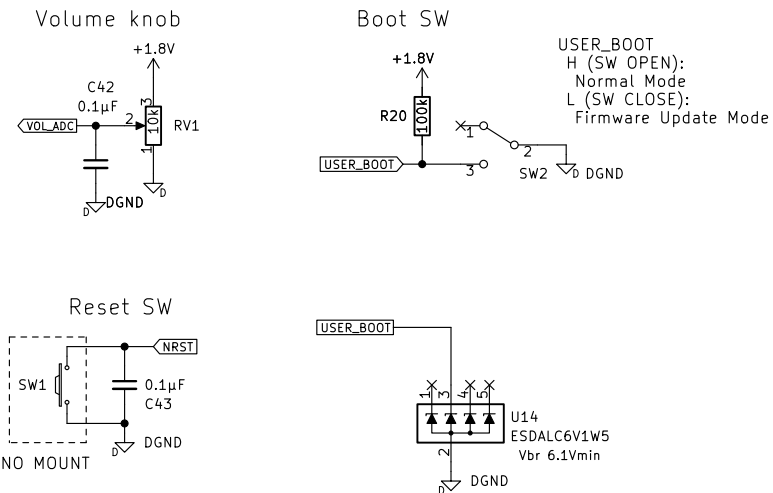
## [MCU Bypass Capacitors]



## [PSRAM]

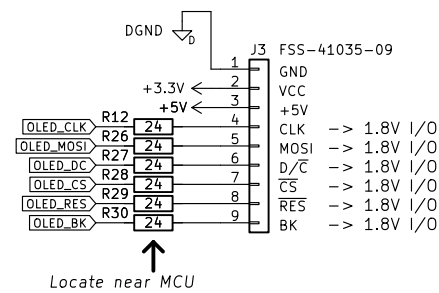


## [Knobs and Switches]

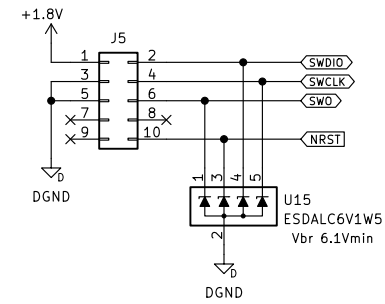


# I/O

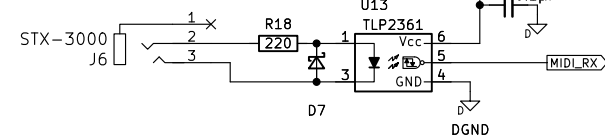
## To Display Board



## Debug Conn (SWD 10P)



## MIDI\_IN (TRS Type A)



Audio Out

C44 C45 C46 C47 C48  
0.1µF 0.1µF 4.7µF 4.7µF 4.7µF

+1.8V +1.8V +3.3VA +3.3VA +3.3VA

U8 WM8960

ADCLRC/GPIO ADCDAT MCLK BCLK DACLRC DACDAT LINPUT1 LINPUT2 LINPUT3 RINPUT1 RINPUT2 RINPUT3 SCLK SDIN

R21 R22 R23 R24

DAC\_GPIO DAC\_SCL DAC\_SDA

I2C Slave Addr: 0x34

Locate near MCU

SPK\_LP SPK\_LN SPK\_RP SPK\_RN

SPK\_GND1 SPK\_GND2

AGND EP

VMID MICBIAS

HP\_L HP\_R OUT3

NFZ18SM701SN10 FB1 FB2

Capless Mode (OUT3: Virtual GND)

J2 STX-3000 alt: PJ-328A0

C50 4.7µF C51 4.7µF

C66 47nF C67 47nF

D3 D4 D5

AVRM1005C6R8NT101N

Locate near J2

DGND AGND

Single point ground

Misc.

Mounting hole to case M3

Logo Mark

Mounting hole to sub pcb M2

H1 H2 H3 H4

H5 H6 H7

CureSynth Logo

CureSynth mini main board

Sheet: 5/5

Date: 2022-11-29 (Rev:E4)

Tool: KiCad E.D.A. kicad (6.0.9)

chibi-synth with STM32H723

Audio Out

C44 C45 C46 C47 C48  
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chibi-synth with STM32H723

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chibi-synth with STM32H723		

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Locate near MCU

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